

I. AMENDMENTS

IN THE CLAIMS

Please enter the amendments to claims 1 and 3, as shown below.

Cancel claim 2 without prejudice to renewal.

Please enter new claims 16-38, as shown below.

1. (Currently Amended) A glycosyl sulfotransferase-3 (GST-3) HEC-GleNAc6ST polypeptide present in other than its natural environment, wherein said GST-3 polypeptide is encoded by a nucleic acid comprising a nucleotide sequence having at least about 75% identity to SEQ ID NO:01.

2. (Canceled)

3. (Amended) A fragment of the HEC-GleNAc6ST GST-3 polypeptide according to Claim 1, wherein said fragment catalyzes the transfer of a sulfate group from a donor compound to a selectin ligand.

4.-15. (Withdrawn)

--16. (New) A glycosyl sulfotransferase-3 (GST-3) polypeptide comprising an amino acid sequence having at least about 60% amino acid sequence identity to the amino acid sequence set forth in SEQ ID NO:02.

17. (New) The GST-3 polypeptide of claim 1, wherein said polypeptide is encoded by a nucleic acid comprising a nucleotide sequence having at least about 90% identity to SEQ ID NO:01.

18. (New) The GST-3 polypeptide of claim 1, wherein said polypeptide is encoded by a nucleic acid comprising a nucleotide sequence having at least about 95% identity to SEQ ID NO:01.

19. (New) The GST-3 polypeptide of claim 1, wherein said polypeptide comprises the amino acid sequence set forth in SEQ ID NO:02.

20. (New) The GST-3 polypeptide of claim 1, wherein said polypeptide catalyzes the transfer of a sulfate group from a donor compound to a selectin ligand.

~~21.~~ (New) A glycosyl sulfotransferase-3 (GST-3) polypeptide comprising a sequence having at least about 60% amino acid sequence identity to the amino acid sequence set forth in SEQ ID NO:04.

~~22.~~ (New) A glycosyl sulfotransferase-3 (GST-3) polypeptide present in other than its natural environment, wherein said GST-3 polypeptide is encoded by a nucleic acid comprising a nucleotide sequence having at least about 75% identity to SEQ ID NO:03.

23. (New) The GST-3 polypeptide of claim 22, wherein said GST-3 polypeptide is encoded by a nucleic acid comprising a nucleotide sequence having at least about 90% identity to SEQ ID NO:03.

~~24.~~ (New) The GST-3 polypeptide of claim 22, wherein said GST-3 polypeptide is encoded by a nucleic acid comprising a nucleotide sequence having at least about 95% identity to SEQ ID NO:03.

25. (New) The GST-3 polypeptide of claim 22, wherein said polypeptide comprises the amino acid sequence set forth in SEQ ID NO:04.

26. (New) The GST-3 polypeptide of claim 22, wherein said polypeptide catalyzes the transfer of a sulfate group from a donor compound to a selectin ligand.

27. (New) The GST-3 polypeptide of claim 20 or claim 26, wherein the selectin ligand is an E-selectin ligand.

28. (New) The GST-3 polypeptide of claim 20 or claim 26, wherein the selectin ligand is a P-selectin ligand.

29. (New) The GST-3 polypeptide of claim 20 or claim 26, wherein the selectin ligand is an L-selectin ligand.

30. (New) The GST-3 polypeptide of claim 29, wherein the L-selectin ligand is selected from GlyCAM-1, CD34, MAdCAM-1, Sgp200, and podocalyxin.

31. (New) The fragment of claim 3, wherein said fragment comprises a functional domain of GST-3.

32. (New) The fragment of claim 31, wherein said functional domain is an acceptor binding site.

33. (New) The fragment of claim 31, wherein said functional domain is a donor binding site.

34. (New) The fragment of claim 3, wherein said fragment is at least about 10 amino acids in length.

35. (New) The fragment of claim 3, wherein said fragment is at least about 15 amino acids in length.

36. (New) The fragment of claim 3, wherein said fragment is at least about 50 amino acids in length.

37. (New) The fragment of claim 3, wherein said fragment is at least about 300 amino acids in length.

38. (New) A composition comprising a polypeptide according to any one of claims 1, 16, 21, and 22. --